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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,562	05/25/2007	Michael Cornelis Van Beek	PHNL031523US	7900

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BRIARCLIFF MANOR, NY 10510

EXAMINER

FONTENOT, NIGEL RAI

ART UNIT	PAPER NUMBER
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3768

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05/19/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/596,562	Applicant(s) VAN BEEK ET AL.	
	Examiner NIGEL FONTENOT	Art Unit 3768	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7,9,10,12-17 and 19-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-7,9,10,12-17 and 19-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>6/16/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is responsive to the application filed June, 16, 2006. Preliminary Amendment filed June 16, 2006 has been entered. Claims 8, 11, and 18 have been canceled. Newly added claims 21-23 have been entered. Claims 1-7, 9-10, 12-17, and 19-23 are now pending.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
2. Claims 1-20 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Claim 1 recites the limitation "the surface" in claim line 2. Claim 1 recites the limitation "the object" in claim line 5. There is insufficient antecedent basis for these limitations in the claim. Claim 14 also recites similar indefinite language.
4. Claim 3 recites the limitation "the polarizing beam splitter" in claim line 4. There is insufficient antecedent basis for this limitation in the claim.
5. Claim 4 recites the limitation "for each image" in claim line 2. There is insufficient antecedent basis for this limitation in the claim. Claim 4 also recites the limitation "a separate imaging device is provided for each image." This limitation is vague and indefinite as only one imaging device has been introduced in the independent claim and

Art Unit: 3768

there is also no recitation of at least one image. Claim 10 recites similar indefinite language.

6. Claim 5 recites the limitation "each of the two images" in claim line 2. There is insufficient antecedent basis for this limitation in the claim.

7. Claim 6 recites the limitation "the polarizing beam splitter" in claim line 2. There is insufficient antecedent basis for this limitation in the claim.

8. Claims 19-20 are dependent on claim 18. Claim 18 is canceled. These claims will be taken to be dependent on claim 14.

9. Claims 1-20 recites similar indefinite language as addressed above. Proper action is required.

10. Claim 23 recites "the size of the shift" in claim line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application

Art Unit: 3768

by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

12. Claims 1, 3, 10, 12-16, and 19-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Lucassen et al. (US 2003/0109774).

13. Addressing claims 1, 3, 10, 12-16, and 19-23, Lucassen discloses an apparatus and method for performing of Orthogonal Polarized Spectral Imaging for imaging objects below the surface of diffuse scattering media (see para 36), comprising a light source for providing polarized light, an imaging device, a beam splitter, a focusing device, and means for imaging the object at two different imaging angles (see figs. 1 and 5 and paras 26 and 35), wherein the means for imaging the object is formed by a main objective, a scanning mirror, and at least one of a rotating wedge and two shifting wedges for shifting an imaging beam path from the polarizing beam splitter to the imaging device (see paras 26-27 and figs. 1 and 5), wherein the imaging devices are one of CCD-cameras, CMOS-sensors, and a combination of CCD-cameras and CMOS-sensors (see paras 28 and 36), further comprising a data processor for determining a position of the object, the position including at least information about the z-axis which is

Art Unit: 3768

parallel to the optical axis (see para 26 and figs. 1 and 5), further comprising a spectroscopic analysis system, with a spectroscopic light source and a spectroscopic light beam positioning device for directing the spectroscopic light beam to the object in dependence of the position of the object determined by the data processor (see paras 35), wherein a direction of the shift determines whether the imaged object is above or below focal plane and wherein a distance between the object and a focal plane is calculated from the size of the shift (see paras 9, 13-16), wherein part of the objective is illuminated with a parallel beam so as to obtain the at least two images and wherein the entire objective is illuminated at a defined angle so as to obtain the at least two images (see figs. 1 and 5 and paras 10 and 35).

14. Claims 1-2, 4-5, 12, 14, and 19-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Kenet et al. (US 5836872).

15. Addressing claims 1-2, 4-5, 12, 14, and 19-23, Kenet discloses an apparatus and method for performing Orthogonal Polarized Spectral Imaging for imaging objects below the surface of diffuse scattering media (see col. 6 lines 15-20 and lines 45-62), comprising a light source for providing polarized light, an imaging device, a beam splitter, a focusing device, and means for imaging the object at two different imaging angles (see col. 4 lines 50-65), wherein the means for imaging the object is formed by two objectives having different imaging angles (see col. 4 lines 50-65, col. 9 lines 22-28, col. 14 lines 21-21), wherein a separate imaging device is provided for each image (see col. 7 line 60-col. 8 line 5 and col. 8 lines 50-55), wherein a shutter is provided for

Art Unit: 3768

transmitting each of the two images in alternation (see col. 4 lines 50-65), characterized in further comprising a data processor for determining a position of the object, the position including at least information about the z-axis which is parallel to the optical axis (see col. 3 line 52-col. 4 line 8), wherein part of the objective is illuminated with a parallel beam so as to obtain the at least two images and wherein the entire objective is illuminated at a defined angle so as to obtain the at least two images (see col. 4 lines 50-65, col. 7 line 60-col. 8 line 23, and col. 8 lines 41-60).

16. Claims 1 and 3-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Spink et al. (US 5867309).

17. Addressing claims 1 and 3-7, Spink discloses an apparatus capable of performing Orthogonal Polarized Spectral Imaging for imaging objects below the surface of diffuse scattering media (see col. 7 lines 52-65), comprising a light source for providing polarized light, an imaging device, a beam splitter, a focusing device, and means for imaging the object at two different imaging angles (see col. 7 lines 52-65), wherein the means for imaging the object is formed by a main objective, a scanning mirror, and at least one of a rotating wedge and two shifting wedges for shifting an imaging beam path from the polarizing beam splitter to the imaging device (see col. 7 lines 52-65, see col. 9 lines 55-61, and col. 11 lines 21-29), wherein a separate imaging device is provided for each image (see figs. 1, 9 and 15-16), wherein the shutter is located between the polarizing beam splitter and the imaging device, wherein the

Art Unit: 3768

shutter is one of a rotating-aperture shutter and a liquid crystal cell shutter (see col. 9 lines 55-61 and fig. 9).

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

20. Claims 9 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lucassen et al. (US 2003/0109774) or alternatively over Kenet et al. (US 5836872).

21. Addressing claims 9 and 17, it would have been obvious to one of ordinary skill in the art at the time of invention to optimize the above apparatus and method by changing the imaging angles to provide the best information and data, including having the imaging angle differ by at least approximately 10 degrees.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NIGEL FONTENOT whose telephone number is (571)270-7032. The examiner can normally be reached on Monday-Friday (7:00a-4:00p).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on 571-272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/N. F./
Examiner, Art Unit 3768

/Long V Le/
Supervisory Patent Examiner, Art Unit 3768